

2/2 015

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0109759

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PREGELLED ELECTROLYTE AND NEG. ELECTRODE MATERIAL ARE SIMULTANEOUSLY PRESSED THROUGH A FUNNEL SHAPED FEEDER INTO THE POS. ELECTRODE VESSEL BY A PISTON AND VALVE ARRANGEMENT. AT THE SAME TIME, A CURRENT COLLECTOR IS FED THROUGH THE CENTRAL PORTION OF THE FEEDER. BY MOLDING THE ION CONDUCTING DIAPHRAGM AND THE NEG. ELECTRODE IN THE CELL CASING, INTERNAL SHORTING BETWEEN THE CELL ELECTRODES IS ELIMINATED.

UNCLASSIFIED

Antennas

USSR

UDC 621.378.9:778.34:621.396.67.095.3

GERUNI, P. M. and ARUTYUNYAN, D. S.

"Using Radioholography in Antenna Measurements"

Moscow, Izmeritel'naya tekhnika, No 2, 1972, p 90

Abstract: The authors of this brief communication propose a method of radioastronomical antenna measurement in which the amplitude and phase distributions of the field close to the antenna are measured in the far zone, with the obtained data then processed and computed by modeling the field in the optical range. To do this, a radiohologram of the field is obtained in the plane of the antenna gap and is transformed into an optical hologram. Upon restoration of the field in the far zone, the Fourier transform is easily taken by using a long-focus lens. The results of measurements of the field made by the authors are given, together with a block diagram of the equipment and an explanation of its operation. The antenna under measurement had a parabolic reflector with a diameter of 50 cm, operating in the millimeter range.

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USSR

UDC: 621.396.67:621.317.743

GERUNI, P. M.

6

"Problems of Measuring the Parameters of Large Antennas"

Dokl. Nauchno-tekhn. seminar "Metrol. v radioelektron." Tezisy. Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 1), Moscow, 1970, p 82 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B99)

Translation: The requirements for large antennas are set forth, and peculiarities of measuring their parameters are noted. Consideration is given to a number of methods suitable for measuring the parameters of large antennas (radio astronomic, near and internal fields, holographic, etc.) and to their region of applicability. A comparative evaluation is given. Resumé.

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USSR

6 UDC: 621.317.373

GERUNI, P. M., TIGRANYAN, R. M.

"A Precision Phase Meter for the SHF Range"

Dokl. Nauchno-tekhn. seminar "Metrol. v radioelektron." Tezisy, Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 1), Moscow, 1970, p 57 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7A200)

Translation: The authors consider a precision SHF phase meter designed for measuring the phase shift between rf signals in the decimeter, centimeter and millimeter wavelength ranges. Its principal advantages are high precision, wide band and automatic operation. Data are given from experimental studies of instruments in the millimeter and decimeter wavelength ranges. Resumé.

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USSR

UDC 617-073.65

~~GERUSOV, Yu. M.~~, And CHISTYAKOV, I. G., Chair of Surgery, Therapeutic Faculty, and Chair of Physics, Ivanovo Medical Institute

"Color Thermography with Liquid Cholesterol Crystals in Surgery"

Moscow, Eksperimental'nyya Khirurgiya i Anesteziologiya, No 1, 1970, pp 10-12

Abstract: The ability of liquid cholesterol crystals to change color at minimum temperature differences enabled the authors to determine the boundaries and intensity of inflammation, to detect lymph nodes affected with cancer, to determine the degree and extent of joint involvement and their sensitivity to conservative treatment, to discover the exact site and level of involvement of the spine in tuberculosis, the direction of wandering abscesses, and to ascertain boundaries of pathological masses in the mammary and thyroid glands. They also used the method to observe rapid temperature changes caused by dilatation or constriction of the blood vessels in response to pharmacological, local, thermal, or centrally-acting agents. Excerpts from two case histories demonstrate the value of the procedure.

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Acc. Nr: **AP0040311**

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Ref. Code: UR 0481

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya,  
1970, Nr 1, pp 10-12

THE COLOUR THERMOGRAPHY BY CHOLESTERIC LIQUID CRYSTALS  
IN SURGERY

Yu. M. Gerasov, I. G. Chistyakov

Cholesteric liquid crystals were used as thermography for a study of the intensity and expansion of inflammatory processes in soft tissues, vessels, lymph nodes, thoracic and thyroid glands. The thermograms of malignant and benign tumours were studied. The properties of liquid crystals to change their colour at different temperatures make possible to use them for diagnostic purposes. In this study two pictures of thrombophlebitis and right-side mastitis with peculiar distribution of temperatures in the investigated areas are given (blue colour). The method is to be further investigated by improving the composition of liquid crystals and accumulation of clinical experience.

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USSR

ADEL'SON-VEL'SKIY, G. M., BERNSHTEYN, I. N. and GERVER, M. L.

"Estimation of the Number of Actions for Partial Determination of Order in a Finite Set of Numbers"

Issled. po Diskretnoy Mat. [Studies in Discrete Mathematics -- Collection of Works], Moscow, Nauka Press, 1973, pp 184-188 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V341)

Translation: The following bottom estimate is produced for the minimum number of comparisons in the most unfavorable case necessary for separation of the k greatest elements of a linearly decreasing set of n elements (and placement of the elements in the order of increasing magnitude):

$$V_k(n) > n - k + \log_2 \frac{n!}{(n-k+1)!}$$

Where  $k \leq 2$ , the estimate is precise.

Abstractor's note. The top estimate for  $V_k(n)$ , also precise where  $k \leq 2$ , was found earlier by the abstractor (RZHMar, 1967, 3V210).

S. Kislitsyn

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1/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--SOME INDICES OF THE ORGANISM FUNCTIONAL STATE DURING DROWNING AND REANIMATION -U-

AUTHOR-(04)-SUKOLYANSKIY, I.F., GERYA, YU.F., ZAPLATKINA, A.I., YANKOVSKIY, V.D.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHNIY ZHURNAL, 1970, VOL 16, NR 3, PP 326-329

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DROWNING, RESUSCITATION, BODY TEMPERATURE, BLOOD PRESSURE, CLINICAL DEATH, BLOOD TRANSFUSION, ACIDOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1352

STEP NO--UR/0238/70/016/003/0326/0329

CIRC ACCESSION NO--AP0115327

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115327

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGES WERE TRACED OF OXYGEN TENSION IN ARTERIAL BLOOD AND SKELETAL MUSCLE, OF BLOOD PRESSURE, RESPIRATION, BODY TEMPERATURE CONCENTRATION OF THE HYDROGEN IONS IN BLOOD AND OTHER INDICES OF THE ORGANISM FUNCTIONAL STATE DURING THE DROWNING OF DOGS IN SALT WATER AND THEIR FOLLOWING REANIMATION. CLINICAL DEATH, COMING FROM THE LAST MOVEMENT OF THE THORAX, LASTED FROM 9 MIN 36 SEC UP TO 21 MIN. REANIMATION OF THE DROWNED ANIMALS WAS CARRIED OUT BY THE METHOD OF ARTIFICIAL BLOOD CIRCULATION ACCORDING TO S. S. BRYUKHONENKO OR ACCORDING TO A VARIANT OF THIS METHOD, USING A PUMP OF AUTOJECTOR AND A DONOR (LIVING ORGANISM). THE DIFFERENCE IS SHOWN IN THE DYNAMICS OF PO SUB2 CHANGES IN ARTERIAL BLOOD AND SKELETAL MUSCLE. IT DECREASES IN BLOOD QUICKER THAN IN THE MUSCLE WHEN SUBMERGING AN ANIMAL INTO WATER, AT THE SAME TIME DURING REANIMATION, AFTER PROLONGED CLINICAL DEATH, PO SUB2 IN THE SKELETAL MUSCLE REACHES CONSIDERABLE VALUES WITH RECOVERY OF RESPIRATION AND HEART ACTIVITY, IF THE BLOOD FLOW RATE IS HIGHER THAN 100 ML-KG-MIN. DATA ARE OBTAINED EVIDENCING FOR A RELATIVELY QUICK LIQUIDATION OF BLOOD ACIDOSIS, AS WELL AS FOR THERMOGENESIS INTENSIFICATION. AFTER SWITCHING OFF THE EXTRACORPORAL BLOOD CIRCULATION, AS A RULE THE FREE OXYGEN CONCENTRATION IN THE MUSCLE DROPS. IT MIGHT BE A REASON FOR PUTTING THE REANIMATED ANIMALS INTO CONDITIONS OF THE ELEVATED OXYGEN PRESSURE.  
FACILITY: DEPARTMENT OF PATHOLOGY OF HYPO AND PYPEROXY, THE A. A. BOGOMOLETZ INSTITUTE OF PHYSIOLOGY, ACADEMY OF SCIENCES, UKRAINIAN SSR.

UNCLASSIFIED

1/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--DETERMINATION OF BIFURCATION VALUES OF LOAD FOR ASYMMETRICALLY  
LOADED SHELLS OF REVOLUTION WITH ALLOWANCE FOR ASYMMETRIC DEFORMATION

AUTHOR--(02)--GERYAKU, I.D., SHILKRUT, D.I.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA TVERDOGO TELA, MAR.--APR.  
1970, P. 184-190

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SHELL STRUCTURE STABILITY, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0287

STEP NO--UR/0484/70/000/000/0184/0190

CIRC ACCESSION NO--AP0124046

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSIGN NG--AP0124046

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE OCCURRENCE OF BIFURCATION TYPE STABILITY IN GEOMETRICALLY NONLINEAR SHELLS OF REVOLUTION UNDER AXISYMMETRICAL TRANSVERSE LOADS. A METHOD FOR DETERMINING THE BIFURCATION POINTS IN SUCH SHELLS IS DEVELOPED AND IS APPLIED TO SEVERAL SPECIFIC PROBLEMS OF BIFURCATION. THE EXISTENCE OF TWO TYPES OF BIFURCATION POINTS UNDER TENSION AND COMPRESSION IS ESTABLISHED.

UNCLASSIFIED

USSR

UDC 612.432

GERZANICH, I. I.

"Reaction of the Anterior Hypothalamus Nuclei to Hypoxia"

Kiev, Fiziologichniy Zhurnal AN URSU, No 5, 1973, pp 667-674

Translation of abstract: The function of the supraoptic (SO) and paraventricular (PV) nuclei of the hypothalamus was studied in white male Wistar rats exposed to hypoxia for an hour at "altitudes" of 4000, 7000, and 10,000 m. Hypoxia resulted in reconstruction of the functional activity of the neurosecretory cells of the anterior hypothalamus nuclei. The functional changes in the SO and PV nuclei were similar, but the reaction in the former was more pronounced. Hypoxia disrupted the circadian rhythm of the activity of the neurosecretory cells of the SO and PV nuclei. The functional changes were proportional to the degree of hypoxia and most pronounced in the SO nucleus. Functional restoration of the hypothalamic neurosecretory centers after the animals were exposed to hypoxia at different "altitudes" was protracted, phasic, and with a trace character: the lower the "altitude," the shorter the recovery period. The longer the exposure to hypoxia, the more pronounced the functional changes in the neurosecretory cells and the longer it took for them to recover.

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GERZHA, L. A.

UDC 550.83.003.56  
SPIN PRECESSION EXCITATION BY MEANS OF PHASE MODULATION OF  
PUMPING LIGHT

[Article by V. M. Ryzhkov and L. A. Gerzha, Leningrad,  
Geofizicheskaya apparatura, Russia, No 12, 1971, pp 28-32]

V. E. Bell and A. L. Bloom [Bell, Bloom, 1961] reported in their paper about the excitation of an unattenuated precession of the atomic system magnetization vector conducive to optical pumping (vapors of alkali metals, He and others) during its irradiation with a circularly polarized light whose intensity was modulated with Larmor frequency.

It may be shown that a stationary magnetizing process is also obtained upon the changing of the polarization condition of the pumping light with Larmor frequency. As it is known, light, when right-hand or left-hand circularly polarized, magnetizes an atomic system either along the direction of its propagation or against it.

At a certain time  $t_0$ , let a circularly polarized light (for example in the right-hand direction) propagating in a direction perpendicular to magnetic field  $H_0$ , create in a cell with the sample a small magnetization along the ray, proportional to the light intensity. This magnetization immediately begins to precess, with a frequency  $\omega_0 = \gamma H_0$ , around the field  $H_0$  in a plane perpendicular to  $H_0$ , and its subsequent vectorially to the magnetization produced during all light polarization of time. We shall vary the state of light polarization in such a manner as, at time  $t = \pi / \omega_0$  (when the magnetization field produced at time  $t_0$  will assume an opposite orientation), to have the light appear either linearly or left-hand circularly polarized. Since along the direction of its propagation, and left-hand circularly polarized light produces magnetization in the direction opposite that of right-hand polarized light, then in

SPR 56099 - 7 -  
25 May 72

USSR

UDC 577.1:615.7/9

MENDZHERITSKAYA, L. G., and GERZHENOVICH, Z. S.

"Nitrogen Metabolism of Rat Brain with Oxygen Poisoning, and the Protective Action of Serotonin"

Nauch. dokl. vyssh. shkoly. Biol. n. (Scientific Reports of the University Biological Sciences), 1971, No 8, pp 45-49 (from RZh-Khimiya, No 1(II), Abstract No 1F2026)

Translation: It was shown on rats that when the action of serotonin is combined with that of O<sub>2</sub> under pressure, the concentration of ammonia and glutamine is increased (by 168 and 33% respectively), the concentration of glutamic, aspartic and  $\gamma$ -aminobutyric acid is reduced, and also the degree of protein amidation is lowered. The mechanism of the protective action of serotonin in the case of oxygen poisoning is discussed, as well as its effect on nitrogen metabolism in the brain conclusions.

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USSR

UDC 582.285.22:581.14

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GESHELE, E. E., and OMEL'CHENKO, L. I., Selection and Genetics Institute,  
Odessa

"Germination of Uredospores of Puccinia Graminis Pers. F. Sp. Tritici Eriks.  
Et E. Henn. in Inoculation Drops on Leaf Surface of Different Wheat Varieties"

Leningrad, Mikologiya i Fitopatologiya, Vol 7, No 1, 1973, pp 16-22

Abstract: Uredospores suspended in distilled water and sprayed on wheat leaves germinate to various degrees. In most cases, the more susceptible is the wheat strain to stem rust, the higher is the percentage of germinating spores: about 30 in resistant strains, 35 in moderately resistant strains, and up to 100 in susceptible strains. In addition to containing substances produced by the spores, the inoculation drops collected from resistant wheat strains also contain relatively large quantities of phytoncides (protective substances normally diffusing from the leaves to the surface) and phytoalexins (protective substances whose production by the plant and diffusion to the surface is induced by the spores). However, wheat strains Kavkaz and Aurora are conspicuous exceptions to this rule, since the spores germinate in large numbers on them, and yet the strains are resistant to stem rust by virtue of an internal defense mechanism. Chemical analysis of the compounds present in the inoculation drops yields no clue as to the nature of the protective substances.

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USSR

UDC 632.9:582.285.22:633.11

GESHELE, E. E., All-Union Selection and Genetics Institute, Odessa

"The Present State of the Problem of Protecting Wheat From Rust"

Leningrad, Mikologiya i Fitopatologiya, Vol 4, No 2, 1970, pp 100-107

Abstract: This is a review of work on wheat species and the various types of wheat rust, under varying geographic and climatic conditions in the USSR, and of the agrotechnical measures designed to fight wheat rust. Elimination of barberry bushes, from which the winds blow the fungus spores over the fields, is the first step. Of the many fungicides, nickel-containing compounds are rather effective in destroying fungal mycelium. Much work had been done in developing resistance of wheat to rust, but successes are still somewhat specific. The real problem is the development of non-specific resistance by selective cross-pollination and hybridization to produce species with resistant genes and plasma genes which are not recessive in their subsequent phenotypes. Much work had already been accomplished along these lines by the cooperation of departments of agriculture in the USSR and other countries.

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USSR

UDC: 632.4.42/.49A/z

GESHELE, E.E., and BABAYANTS, L.T. (All Union Selection and Genetics Institute Odessa)

"Anatomical Characteristics of Wheat Stems Limiting the Development of Stem Rust:

Moscow, Sel'skokhozyaystvennaya Biologiya, No 3, 1970, pp 373-376

Abstract: Many varieties of wheat and their varying degrees of resistance to the stem rust are discussed. Winter wheat is generally more resistant because the wheat stem is fairly well grown and hardened before the rust can take hold. However, it was found that the structure of the stem is the most decisive factor in resistance to rust mycelium. Beneath the epidermis all stems have layers of chlorenchyma and sclerenchyma. Those varieties of wheat which have broad layers of chlorenchyma are more readily infested by mycelium, which feeds on it. Those varieties which have narrow layers of chlorenchyma and rather broad layers of sclerenchyma, or, sclerenchyma encircling the chlorenchyma, are resistant to wheat rust mycelium and greatly limit its development.

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Phytology

USSR

UDC 632.9

GESHELE, E. E., and SIMONOVA, G. A., All Union Selection-Genetics Institute

"Extending the Period of Inoculation of Wheat With Smut for Selection Evaluation"

Moscow, Vestnik Sel'skokhozyaystvennoy Nauki, No 3, 1970, pp 78-81

Abstract: Possibilities of extending the inoculation period of several varieties of wheat and barley with smut from 7 to 20 days after the beginning of blooming were examined. Seven varieties of winter wheat were studied, differing in the degree of resistance to this disease. It was determined that wheat may be infected with smut during the blooming period, and to some extent after its termination, which was typical of the most susceptible types. It would be advisable to differentiate between the degrees of susceptibility of the studied varieties for this reason. The inoculation of various varieties of wheat with smut may be forecast from the degree and type of infection of the seeds.

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USSR

UDC 669.127

GESHELIN, V. G., KOVAL'CHUK, G. Z., and PARKHOMENKO, P. A., Institute of Ferrous Metallurgy

"Investigation of the Fatigue Breakdown of Carbon Steel Treated With Ferrocerium"

Kiev, Metallofizika, No 31, 1970, pp 157-160

Translation: Round specimens from industrially melted high-grade carbon steel 60 were tested for fatigue limit under conditions of symmetrical cycle tension -- compression for the purpose of clarifying the effect of cerium additives on the steel's fatigue strength. Ferrocerium was injected when the metal was cast into an ingot mold in terms of 1.5 kg per ton of steel. The effect of the form of nonmetallic inclusions on cracking during fatigue tests was investigated. It is shown that the replacement of nonmetallic inclusions drawn in the direction of rolling after the modification of the steel with cerium with compact, nondeformed inclusions is accompanied by an increase in the steel's fatigue strength. On the basis of laboratory tests made on cable a conclusion was drawn on the possibility of increasing their life by approximately 40% provided the steel is additionally deoxidized with an optimum amount of ferrocerium. Bibliography: 7 entries, illustrations: 4.  
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1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--LYSOGENY OF ACTINOMYCES LEUCOPHAEUS -U-  
AUTHOR--GESHEVA, L. G  
COUNTRY OF INFO--USSR  
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 134-138  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ACTINOMYCES, PHAGE, MORPHOLOGY, LYSOGENESI  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/1402 STEP NO--UR/0220/70/039/001/0134/0138  
CIRC ACCESSION NO--AP0109464  
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109464

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER CONDITIONS OF MASS CULTURE ACT. LEUCOPHAEUS UNDERWENT PHAGOLYSIS. THE ISOLATED PHAGE WAS HIGHLY SPECIFIC AND BROUGHT ABOUT LYSIS OF ONLY TWO CULTURES AMONG 121: ACT. LEUCOPHAEUS 506 AND ACT. LEUCOPHAEUS 285. ACT. LEUCOPHAEUS 506 WAS SHOWN TO BE A POLYLYSOGENIC CULTURE AND TO CONTAIN ALONG WITH NORMAL PHAGE PARTICLES DEFECTIVE ONES CONSISTING ONLY OF A TAIL. SEVERAL PROPERTIES OF THE PHAGE ARE DESCRIBED, SUCH AS MORPHOLOGY OF NEGATIVE COLONIES AND PHAGE PARTICLES.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70  
TITLE--LYSOGENY OF ACTINOMYCES LEUCOPHAEUS -U-  
AUTHOR--GESHEVA, R.L. **G**  
COUNTRY OF INFO--USSR  
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 134-138  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ACTINOMYCES, PHAGE, MORPHOLOGY, LYSOGENESI  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1990/1402 STEP NO--UR/0220/70/039/001/0134/0138  
CIRC ACCESSION NO--AP0109464  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109464

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER CONDITIONS OF MASS CULTURE ACT. LEUCOPHAEUS UNDERWENT PHAGOLYSIS. THE ISOLATED PHAGE WAS HIGHLY SPECIFIC AND BROUGHT ABOUT LYSIS OF ONLY TWO CULTURES AMONG 121: ACT. LEUCOPHAEUS 506 AND ACT. LEUCOPHAEUS 285. ACT. LEUCOPHAEUS 506 WAS SHOWN TO BE A POLYLYSOGENIC CULTURE AND TO CONTAIN ALONG WITH NORMAL PHAGE PARTICLES DEFECTIVE ONES CONSISTING ONLY OF A TAIL. SEVERAL PROPERTIES OF THE PHAGE ARE DESCRIBED, SUCH AS MORPHOLOGY OF NEGATIVE COLONIES AND PHAGE PARTICLES.

UNCLASSIFIED

L/2 040 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--VARIATION METHOD FOR CONSTRUCTING TRANSPORT EQUATIONS IN  
DISSIPATIVE SYSTEMS WITH ARBITRARY BOUNDARY CONDITIONS -U-  
AUTHOR-(03)-GESKIN, E.S., GOLDFARB, E.M., KOTLYAR, B.D.  
COUNTRY OF INFO--USSR G  
SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 543-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--THERMAL CONDUCTIVITY, THERMAL DIFFUSION, THERMAL CONVECTION,  
VISCOUS FLOW, TRANSPORT EQUATION, VARIATIONAL METHOD  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1992/0388 STEP NO--UR/0076/70/044/002/0543/0544  
CIRC ACCESSION NO--AP0111581  
UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0111581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF THE VARIATIONAL PRINCIPLE, EQUATIONS WERE OBTAINED FOR CORRELATING THERMAL COND. AND DIFFUSION ACCOUNTING FOR CONVECTIVE HEAT FLOW, SOURCES AND CROSSOVER PHENOMENA, AS WELL AS FLOW OF VISCOUS LIQUID. FACILITY: UKR. GOS. PROEKT. INST. METALLURGAVTOMAT., DNEPROPETROVSK, USSR.

UNCLASSIFIED

USSR

UDC 62 - 768.3:669.295

GESKIN, S. S., and KARACHEVTSEVA, N. V.

"Conditions for Spark-Free Utilization of Titanium and Its Alloys"

Moscow, *Khimicheskoye i Neftyanoye Mashinostroyeniye*, No 2, Feb 73, pp 22-23

Abstract: The mechanism of spark formation during friction between various metals and titanium is described. Experimental results are reported of the study on the spark formation due to the friction or impact between VT-1 titanium alloy and steel, bronze, aluminum, and zinc alloys. Spark formation under such circumstances may be prevented or diminished considerably by proper selection of the materials at the point of friction or mutual impact or by proper design of the equipment. Equipment made of titanium and its alloys must have its component elements designed in a way which would minimize local overheating of titanium due to mechanical interaction so that it would not exceed 673°K.

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USSR

UDC: 621.317.738

GESSEN, G. V., MOROZOV, Yu. G., EPSHTEYN, S. L.

"A Device for Measuring the Parameters of Thin Dielectric Films"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 529483, Division G, filed 19 May 70, published 9 Feb 72, p 181

Translation: This Author's Certificate introduces a device for measuring the parameters of thin dielectric films such as the permittivity and the loss tangent. The device contains two electrodes with the film to be measured between them. As a distinguishing feature of the patent, measurement accuracy is improved by covering the working surface of one of the electrodes with a layer of current-conducting rubber and making the working surface of the other electrode in the form of a convex spherical segment.

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USSR

UDC 621.385.6

GESTRINA, G. N.

"Radiation of Electron Stream Moving in a Periodic Structure"

Radiotekhnika. Resp. mezhved. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific-Technical Collection), 1970, Issue 13, pp 16-32 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A20)

Translation: A radiative system is considered, consisting of two electron streams which flow through two symmetrically arranged diffraction gratings. One of the streams is modulated with respect to density. The other (non-modulated) is lead in for amplification of the diffractive radiation originating in the system. The problem of the interaction of electron beams with the gratings is treated as a boundary value problem of electro-dynamics. The mathematical method proposed leads to a nonterminating system of linear equations for the Fourier coefficient of the current which is induced in the metal; this makes it possible to draw a number of theoretical conclusions and is convenient for calculation on an electronic computer. 14 ref. Summary.

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USSR

UDC 631.547.04+634.836.73

NATAL'INA, O. B., SVETOV, V. G., and GETALENKO, G. G., Kuban' Agricultur l  
Institute

"Aftereffect of Chlorocholine Chloride on Grape Plants"

Moscow, Khimiya, v Sel'skom Khozyaystve, Vol 10, No 9, (119), 1973, pp 59-61

Abstract: The growth of grape vines is inhibited as late as two years after the application of chlorocholine chloride [CCC]. Depending on the concentration of the solution and the frequency of application, the increase in vine growth dropped by 15-30%. This however did not depress formation and development of grape racemes: on the second year after application of CCC it was 20-46% higher than on the controls and on the third year after application -- 18-27% higher. The actual yield of the grape was 10-60% higher, accompanied by a lower incidence of rot.

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USSR

UDC 621.771.001.5

OSADCHIY, V. Ya., MUKHEN, Yu. A., and GETIYA, I. G., All-Union Correspondence  
Machine Building Institute

"Determining the Metal Twisting in Spiral Rolling"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9,  
1970, pp 79-82

Abstract: Theoretical and experimental investigations of metal twisting in spiral rolling on a mushroom-shaped broaching tool are reported. A formula for determining the angle of twist was derived. The angle of twist was experimentally determined by twisting preliminarily machined grooves along the generator. The experimental results agreed well with those obtained from the formula.

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--CHANGES IN THE ULTRASTRUCTURE OF EPIDERMIS IN PSORIASIS -U-  
AUTHOR-(03)-TSVETKOVA, G.M., GETLING, Z.M., CHISTYAKOVA, I.A.  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 13-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SKIN DISEASE, BIOPSY, DIAGNOSTIC MEDICINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1998/0689 STEP NO--UR/0206/70/000/005/0013/0017  
CIRC ACCESSION NO--AP0121350  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121350

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS THE RESULTS OF INVESTIGATION OF THE ULTRASTRUCTURE OF EPIDERMIS IN DIFFERENT PERIODS AND FORMS OF PSORIASIS (STATIONARY AND PROGRESSING PERIODS, AS WELL AS IN PSORIATIC ERYTHRODERMIA). BIOPSIES OF THE SKIN IN THE AREA OF PSORIATIC ELEMENTS FROM 10 PATIENTS AT THE AGE OF 21 TO 50 YEARS WERE STUDIED. THE STUDIES INDICATED THAT DEVELOPMENT OF PSORIATIC ELEMENTS WAS BASED ON INCREASED FUNCTIONAL ACTIVITY OF EPIDERMIS CELLS ACCOMPANIED BY DISTURBANCES IN OXIDATIVE PROCESSES AND PHENOMENA OF KERATINIZATION. HYPOXIC STATES ARE CONFIRMED BY THE PRESENCE OF DYSTROPHIC AND DESTRUCTIVE CHANGES IN EPIDERMIS CELLS AND SIGNS OF EDEMA. FACILITY: OTDELY PATOMORFOLOGII I DERMATOLOGII TSENTRAL'NOGO N-I KCZHNO-VENEROLOGICHESKOGO INSTITUTA MINISTERSTVA ZDRAVOOKHRANEN. SSSR, MOSCOW.

UNCLASSIFIED

USSR

UDC 669.71.042.6

SHILOV, I. F., GET'MAN, A. A.

"Effect of Shrinkage Processes on the Mechanical Processes of Castings Made of Light Alloys"

Usadochn. protessy v splavakh i otlivkakh -- V sb. (Shrinkage Processes in Alloys and Castings -- collection of works), Kiev, Naukova Dumka Press, 1970, pp 288-292 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G188)

Translation: The process of formation of shrinkage defects is investigated as a function of the structural design of cast parts made of light alloys. Their effect on the mechanical properties of the products is established. There are 2 illustrations and 2 tables.

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USSR

UDC: 431.3

GETMAN, A. F., Kiev

"Influence of Electropolishing on the Sensitivity of Certain Alloys to Stress Concentration"

Kiev, Problemy Prochnosti, No 8, Aug 73, pp 43-48.

**Abstract:** A method is developed for deep electrolytic polishing of specimens with deep circular grooves. The sensitivity of steels types 40Kh, 1Kh17N2Sh, EI612 and alloy EI457B to stress concentrations is studied at room temperature and elevated temperatures using specimens with no hardened surface layer and with hardening, produced by mechanical working of the surface of the specimens (polishing). It is shown that the surface hardening and residual stresses in the surface layer of the specimens increased the sensitivity of the materials studied to stress concentration.

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USSR

UDC 431.3

TROSHCHENKO, V. T., GETMAN, A. F., Institute of Strength Problems, Academy of Sciences, Ukrainian SSR

"Investigation of the Influence of Small Elastoplastic Deformations Upon the Carrying Capacity of Samples With Stress Concentrations Under Conditions of Repeated Alternating Loading"

Kiev, Problemy Prochnosti, No 2, Feb 72, pp 18-23

Abstract: The influence of stress redistribution, brought about by the presence of cyclic elastic deformations, upon the carrying capacity of cylindrical specimens with a deep round hyperbolic groove, was studied for pure alternating flexure with rotation on the basis of  $10^5$  --  $10^7$  loading cycles. The experimental investigation was conducted on steels 40Kh, 1Kh17N2Sh, EI612, EI826, and alloy D16T at room temperature, and on steel EI612 at a temperature of  $600^\circ\text{C}$  after mechanical polishing of the working part of the specimens. Specimens of steel 40Kh and alloy EI437B were subjected to deep electric polishing in order to remove the cold-hardened layer which originated as a result of machining. On the basis of an approximate solution of an elastoplastic problem for a specimen with a deep round hyperbolic groove, a procedure was developed for taking inelastic cyclic deformations into account when calculating

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USSR

TROSHCHENKO, V. T., and GETMAN, A. F., Problemy Prochnosti, No 2, Feb 72, pp 18-23

the limit carrying capacity of a specimen with stress concentration during cyclic flexure. It was shown that for the materials under investigation, decreased sensitivity to stress concentration cannot be explained by the presence of cyclical inelastic deformations. Five tables, 4 figures, 2 references.

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Materials

USSR

UDC 431.3

TROSHCHENKO, V. T., ~~GETMAN, A. E.~~, KHAMAZA, L. A., Kiev

"Study of Load-Bearing Ability of Specimens in Continuous Stressed State With Cyclical Elastic-Plastic Deformation"

Kiev, Problemy Prochnosti, No 12, Dec 70, pp 14-19

Abstract: A study is made of the influence of stress redistribution caused by the presence of cyclical nonelastic deformations on the load-bearing capacity of cylindrical specimens of steels types 40KH, E1612 and E1437B alloy at 20°C, steel type E1612 at 600°C and E1437B alloy at 700°C with circular bending in the range of  $10^5$ - $10^7$  loading cycles to rupture. A method is developed for considering nonelastic cyclical deformations in calculating the limiting load-bearing capacity of cylindrical specimens for the case of cyclical bending. It is demonstrated that the actual bending stresses for this number of loading cycles to rupture is considerably higher than the corresponding stresses in extension and compression, resulting from the influence of the stress gradient.

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USSR

UDC 431.3

GETMAN, A. F., CHUPRINA, A. F.

"The Effect of Electrical Polishing Upon the Fatigue Strength of Steels 40Kh, EI612, and Alloy EI437B at Room temperature and at High Temperatures"

Problemy Prochnosti, No 5, May 1970, pp 90-92

Abstract: Many references exist in the literature with regard to the effect of electrical polishing upon fatigue strength. However, these data usually pertain to the fatigue point either at room temperature or at high temperatures. In the present work, the results of tests on specimens after mechanical and electrochemical polishing are presented in the form of fatigue curves obtained at room temperature and at high temperatures; this permits a broader judgment to be formed concerning the effect of electrical polishing upon the fatigue point; in addition, an attempt was made to link the change of the fatigue point of electrically polished samples at room temperature with the parameters of the cold-worked layer that was removed by electrical polishing. It was found that the electrolytic removal of cold-worked surface layers decreases the fatigue point and the longevity in the field of low stresses at room temperature. At

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GETMAN, A. F., et al, Problemy Prochnosti, No 5, May 1970, pp 90-92

high temperatures the difference between the fatigue points of electrically polished specimens and those that were not electrically polished is less than at room temperature; for alloy El437B the fatigue point of electrically polished specimens is higher than that of specimens which were not electrically polished.

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Miscellaneous

4

USSR

UDC 669.782.018.9(088.8)

GUSAROV, V. N., MIKULINSKIY, A. S., RYSS, M. A., ~~GETMANCHIK, V. M.~~  
PIGASOV, S. Ye., BELYAYEV, G. S., BEDOV, I. S., and POMOVAYEV, V. N.

"Method of Melting Calcium-Silicon".

USSR Author's Certificate No. 26515, Filed 22/04/67, Published 17/06/70,  
(Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract  
No.1 G164 P).

Translation: A method is suggested for producing Ca-Si in an electric  
arc furnace by reducing CaO with Si-containing material in the presence  
of  $\text{CaF}_2$  with creation of a reducing atmosphere in the furnace by adding  
a C-containing material to the fused charge during the period of Ca  
reduction. The charge is fused in the presence of the C-containing  
material in order to increase the content of Ca in the melt, while the  
Si-containing reducer is introduced after melting.

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Acc. Nr.

AA0108167

Abstracting Service:  
CHEMICAL ABST.

6-70

Ref. Code

UR 0482

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6

134782b Briquets for silicocalcium production. Korhevnikov, G. N.; Nefedov, P. Ya.; Vorob'ev, V. P.; Ryss, M. A.; Getmanchuk, V. M.; Zalko, V. P.; Belyaev, G. S.; Mikulinskiy, A. S. (Ural Institute of Metallurgy, Academy of Sciences, U.S.S.R.) U.S.S.R. 260,653 (Cl. C 21c), 06 Jan 1970, Appl. 25 Feb 1969; From *Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki* 1970, 47(4), 26. Briquets for silicocalcium production were made from lime 60-70 and a carboniferous reducing agent 30-40 wt. % to reduce the losses of Si and the consumption of charge materials. MSCL

EB

REEL/FRAME

19891833

1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV  
TITLE--RESTORATION OF THE ROOF OF THE ELECTRIC FURNACE USED FOR MELTING  
SILICON CONTAINING FERROALLOYS -U-  
AUTHOR--(04)-RYSS, M.A., GETMANCHUK, V.M., BEDOV, I.S., POMOGAYEV, V.N.  
COUNTRY OF INFO--USSR  
SOURCE--U.S.S.R. 263,638  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. ODBRAZTSY, TOVARNYE ZNAKI 1970, 47(8)  
DATE PUBLISHED--1CFE870  
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS  
TOPIC TAGS--CHEMICAL PATENT, ELECTRIC FURNACE, SILICON ALLOY, IRON ALLOY,  
REFRACTORY MATERIAL, MAGNESIUM COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/1820 STEP NO--UR/C482/70/000/000/0000/0000  
CIRC ACCESSION NO--AAC132035  
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132085

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. THE ELEC. FURNACE CROWN IS REDUCED BY APPLYING MG CNTG. MATERIALS TO THE MOLDING SURFACE OF THE CROWN. THE CROWN IS THEN TREATED WITH THE MG VAPORS THAT RESULT FROM REDN. OF THE MG RAW MATERIAL. THE VAPORS ARE INTRODUCED IN A QUANTITY DEPENDING ON THE WEAR AND TEAR OF THE CROWN. FACILITY: CHELYABINSKIY ELEKTROMETALLURGICHESKIY KOMBINAT.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--DETERMINATION OF THE NUMBER OF DOUBLE BONDS IN POLYESTER ACRYLATES  
BY CATALYTIC MICRHYDROGENATION -U-  
AUTHOR-(C2)-GETMANENKO, YE.N.; PEREPLETCHIKOVA, YE.M.

COUNTRY OF INFO--USSR

SOURCE--LAKKRSOCH. MATER. IKH PRIMEN. 1970, (1), 59-60

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--POLYACRYLATE RESIN, PALLADIUM, CATALYTIC HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0438

STEP NO--UR/0303/70/000/001/0059/0060

CIRC ACCESSION NO--AP0119374

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--20NDV70

CIRC ACCESSION NO--AP0119374

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE APP. FOR THE TITLE DETN. WAS DESCRIBED EARLIER BY M. R. CHAPHEKAS, ET AL. (1959). PD ON CHARCOAL CATALYST PERMITTED THE HYDRGGENATION TO BE COMPLETED IN SIMILAR TO 1.5 HR. THE PROCEDURE WAS STANDARDIZED BY USING PURE CINNAMIC ACID. THE RELATIVE ERRCR OF THE DETN. WAS 3.5PERCENT.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--AUTOIMMUNE REACTIONS IN SOME OCCUPATIONAL DERMATOSES AND THEIR  
DYNAMICS DURING PYROGENAL THERAPY -U-  
AUTHOR-(02)-GETMANETS, I.YA., REZENKINA, L.D. 6

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 96-99

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PYROGEN, INDUSTRIAL HYGIENE, DERMATOSIS, IMMUNITY, ANTIBODY,  
TEST, ERYTHROCYTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1687

STEP NO--UR/0497/70/048/003/0096/0099

CIRC ACCESSION NO--AP0129057

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129057

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OUT OF 188 PATIENTS WITH OCCUPATIONAL ECZEMA, ALLERGIC DERMATOSIS, TOXIDERMIA, AND URTICARIA AND IN 55 HEALTHY BLOOD DONORS THE AUTHORS DETERMINED THE C-REACTIVE PROTEIN, ANTI ERYTHROPOIETIC ANTIBODIES IN ACCORDANCE WITH TRYPSINIZED ERYTHROCYTES, DIRECT AND INDIRECT COOMBS' TEST AND ANTIDERMAL ANTIBODIES AFTER BOYDEN'S PASSIVE HEMAGGLUTINATION REACTION. C-REACTIVE PROTEINS AND THE REFERRED TO AUTOANTIBODIES WERE REVEALED IN A PART OF CASES WITH OCCUPATIONAL DERMATOSIS AND RARELY OR ABSENT IN DONORS. THERE WERE NOTED DIFFERENCES IN THE FREQUENCY OF AUTOIMMUNE REACTIONS IN PATIENTS WITH ECZEMA AND DERMATITIS. ALTERATIONS IN THE PROCESS OF PYROGENAL THERAPY WERE STUDIED IN 50 PATIENTS SUFFERING FROM OCCUPATIONAL ECZEMA. ALONG WITH NORMALIZATION OF THE SKIN PATHOLOGICAL PROCESS IN THE MAJORITY OF PATIENTS THERE TAKES PLACE A NEGATIVATION OR REDUCTION OF THE TITER OF AUTOIMMUNE REACTIONS. FACILITY: KHAR'KOVSKIY NAUCHNO-ISSLED. INST. GIGIYENY TRUDA I PROFZABOLEVANIY.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--MECHANISM OF HEAT TRANSFER IN LAMINAR VACUUM INSULATIONS -U-  
AUTHOR-(03)-MIKHALCHENKO, R.S., GETMANETS, V.F., SUKHAREVSKIY, B.YA.  
COUNTRY OF INFO--USSR  
SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, MAR. 1970, P. 481-486  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--TEMPERATURE GRADIENT, HEAT TRANSFER RATE, THERMAL  
CONDUCTIVITY, METAL FOIL, VACUUM CHAMBER, THERMAL INSULATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/1439 STEP NO--UR/0170/70/018/000/0481/0486  
CIRC ACCESSION NO--AP0118428  
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118428

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE FACTORS RESPONSIBLE FOR THE POINT OF INFLECTION OBSERVED ON THE EXPERIMENTAL TEMPERATURE CURVES OF ALTERNATING FOIL AND VACUUM INSULATIONS. IT IS SHOWN THAT THE POINT OF INFLECTION IS CAUSED BY NONEQUILIBRIUM RESIDUAL GAS PRESSURE IN THE LAYERS IN COMBINATION WITH THE SUBSTANTIAL CONTRIBUTION OF THE HEAT CONDUCTIVITY OF THE GASES TO THE TOTAL HEAT TRANSFER. FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, FIZIKO-TEKHNICHESKII INSTITUT NIZKIKH TEMPERATUR, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--AL'FIYA, A NEW HIGH QUALITY LIQUID SYNTHETIC DETERGENT -U-

AUTHOR--(05)--BOLYANDVSKIY, D.M., GETMANSKIY, I.K., LOGIINCVA, N.I.,  
NAYMUSHINA, A.A., KUDYASHOV, A.P.  
COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (3), 34-5

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MATERIALS

TOPIC TAGS--BIODEGRADABLE DETERGENT, AMIDE, FATTY ACID, PHOSPHATE, UREA,  
BLEACHING AGENT/(U)ALFIYA DETERGENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3002/0441

STEP NO--UR/0318/70/000/003/0034/0035

CIRC ACCESSION NO--AP0128011

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NGV70

CIRC ACCESSION NO--AP0128011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPONENTS OF AL'FIYA ARE PRIMARY ALKYL SULFATES 8-13. SEC-ALKYL SULFATES 3-8, SYNTHONAL DT-7 (A PRODUCT OF OXYETHYLATION OF C SUB10 NEGATIVE13 PRIMARY ALCS.) 0-3, SYNTHAMID,5 (MONOETHANGLAMIDES OF SYNTHETIC FATTY ACIDS) 4, NA HEXANETAPHOSPHATE 4, UREA 13, ISO-PRCH 1, BLEACHING AGENT 0.15, PERFUME 0.1, AND H SUB2 0 TO 100PERCENT. ALL THE COMPONENTS OF AL'FIYA ARE BIODEGRADABLE. THE WASHING POWER OF A 0.125PERCENT SOLN. OF AL'FIYA IN HARD WATER (15DEGREES) AT 50DEGREES WITH WOOL IS 124-130PERCENT OF THAT OF NA LAURYL SULFATE. AL'FIYA CAN BE USED EFFECTIVELY ALSO FOR SILK AND SYNTHETIC FABRICS. THE STABILITY OF AL'FIYA AGAINST TURBIDITY AT 10DEGREES LASTS GREATER THAN 24 HRS.

UNCLASSIFIED

USSR

UDC 621.371.029.55

BENEDIKTOV, Ye. A., GETMANTSEV, G. G., YEBZHOV, A. I., KOROBKOV, Yu. S., MALYSHEV, S. K., MATYUGIN, S. N., MITYAKOV, N. A., SAZONOV, Yu. A., CHERNOV, V. A., BEN'KOVA, N. P., BEREZIN, Yu. M., BUKIN, G. V., KOLOKOLOV, L. Ye., and PEREKHVATOV, Yu. K.

"Results of an Experiment in Shortwave Radio Propagation"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972 pp 73-76 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A367)

Translation: Results of experiments on investigating the characteristics of wave propagation in the decameter range (5.7-15.0 MHz) are analyzed; the communications took place between the following magnetically adjacent points: an ionospheric station in Gor'kiy and two science research ships in the Indian Ocean. In particular, the possibility of communication over the Peterson beam was estimated. Two illustrations, bibliography of one. N. S.

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USSR

UDC 612.824.1+577.44

YAKUBOVICH, T. G., and GETSEL', KH. A., Chair of Labor Hygiene and Central Scientific Research Laboratory of the Leningrad Sanitary Hygiene Medical Institute

"The Effect of Vibration on the Permeability of the Blood-Brain Barrier"

Leningrad, Fiziologicheskii Zhurnal SSSR, Vol 58, No 6, 1972, pp 845-850

Abstract: Experiments performed on rats revealed that vibration increases the permeability of the blood-brain barrier and temporarily reduces protein synthesis in the cerebellum and pons. The measurements were made with methionine-S<sup>35</sup> injected intraperitoneally immediately after exposure to vibration. To determine the permeability, the animals were decapitated 15 min later, and tissue slices were prepared for autodiagrams. To determine protein synthesis, the animals were decapitated 24 hrs after injection of the indicator. In the 15-min determinations made after a single exposure to vibration (whole body for 5 hrs at 50 cps and a vertical amplitude of 0.8 mm), much larger quantities of the indicator were accumulated in the cerebellum and pons than in control slides. After repeated vibrations (identical exposure once per day for 90 days), the concentration of the indicator in the nervous tissue was still higher, with the maximum increase occurring in the molecular layer of the cerebellum

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USSR

YAKUBOVICH, T. G. and GETSEL', KH. A., Fiziologicheskiiy Zhurnal SSSR, Vol 58, No 6, 1972, pp 845-850

(by a factor of 7) and in pontine nuclei (by a factor of 6). In the 24-hr determinations made after a single exposure to vibration, the accumulation of methionine (incorporated into proteins) in the cerebellum and pons was much smaller than in control rats; however, after repeated vibrations, the indicator concentration in all structures investigated increased to levels somewhat above the control. It is concluded that the nervous tissue proper is able and the blood-brain barrier unable to adapt to mechanical stress.

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USSR

UDC 612.824.1+612.83

GETSEL", KH., A., NOVIKOVA, YE. F., and YAKUBOVICH, T. G., Central Scientific Research Laboratory, Department of Biochemistry and Department of Labor Hygiene, Leningrad Sanitary Hygiene Medical Institute

"Age-Induced Alterations of the Permeability of the Blood-Brain Barrier and of Protein Metabolism in the Cerebellum and the Pons Varoli"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1,176-1,182

Abstract: An increase in the permeability of the blood-brain barrier to methionine was demonstrated by autoradiography in new-born and 2-year-old rats, either 15 minutes or 24 hours after administration of  $S^{35}$  methionine. In addition a decrease in the intensity of cerebral protein synthesis was observed in the intensity of cerebral protein synthesis was observed in 2-year-old animals, compared to 6-month-old mature ones. In comparing macroautoradiography, which presented an overall picture of layers and structure, and microautoradiography, which showed fine structure, the authors found that both gave identical results.

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USSR

UDC 621.824.1

GETSEL', Kh. A., and ALEKSEYEV, S. V., Central Scientific Research Laboratory and Chair of Labor Hygiene, Sanitary Hygiene Medical Institute, Leningrad

"Permeability of the Blood-Brain Barrier to Radiophosphorus and Phosphorus Metabolism in the Brain of Rats Exposed to Noise"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 41, No 12, 1970, pp 1,758-1,766

Abstract: Autoradiography of brain sections from rats exposed once or repeatedly to white noise (100 db) revealed a marked increase in permeability of the blood-brain barrier in the temporal region and horn of Ammon. After a single one-hour exposure to the noise, a large quantity of P<sup>32</sup> penetrated these regions from the blood, but 24 hours later the distribution of the isotope was the same as in the controls. Thirty-eight days of daily one-hour exposures resulted in a sharp increase in specific activity in the temporal and hippocampal regions, and a decrease in specific activity in the limbic region and hypothalamus. The noise also reduced the rate of metabolism of macromolecular phosphorus compounds in various brain structures.

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USSR

GETSEL', Kh. A., and ALEKSEYEV, S. V., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 41, No 12, 1970, pp 1,758-1,766

These shifts were still in evidence two weeks after the last exposure.

2/2



Computers: Programming & Applications

USSR

UDC 681.327.66

GETSEVICHYUS, Yu.Yu., RAGUL'SKAS, K.N., Kaunas Polytechnical Institute

"A Memory Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,  
No 34, 1970, Soviet Patent No 286353, Class 42, Filed 29 Sep 69, p 136

Abstract: This Author's Certificate introduces a memory device which contains discs with a magnetic coating fastened to the shaft of a drive motor or speed reducer. As a distinguishing feature of the patent, manufacturing technology is simplified and deformation of the discs due to centrifugal forces is kept uniform by making the discs from thin rolled sheets with their surfaces joined (for instance cemented) in directions perpendicular to the rolling direction.

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Extraction and Refining

USSR

UDC 66.061+66.074.7

GETSKIN, L. S., Corresponding Member of the Academy of Sciences Kazakh SSR,  
and STARISEV, V. N., Candidate of Technical Sciences

"Extraction and Sorption Separation and Parting of Nonferrous and Rare Metals"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleev,  
Vol 15, No 4, 1970, pp 410-413

Abstract: A short review is made of works dealing with extraction and sorption techniques. The use of different properties of elements and peculiarities of extraction and sorption processes in the development of technological diagrams of recovery and parting of metals is shown. The uncovering of raw materials and the preparation of solutions are important factors determining the success in the working out and introduction into industry of extraction and sorption technological diagrams. The combination of sorption and extraction processes in one diagram ensures the solution of the problem of the complex use of raw materials.

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USSR

UDC 621.791.037 -1- /

SHNAYDER, B. I., Institute of Electric Welding imeni Ye. O. Paton, SERGEYEV, Yu. Ye., VERBITSKIY, V. G., ~~GETSONOK, A. L.~~ and YAKOVLEV, G. Kh., Ufa Aviation Institute imeni S. Ordzhonikidze

"Controlling Automatic Tungsten Electrode Argon Arc Welding of Thin-Sheet Parts with Curvilinear Contours"

Kiev, Avtomaticheskaya Svarka, No 12, Dec 70, pp 15-18

Abstract: Welding of parts with curvilinear contours such as those used in the manufacture of piping and nozzles, is a process which can best be done automatically. The seams in this type of welding are curved, in the vertical plane, and the parameters controlled in the welding process are the length of the arc, the welding rate consisting of a horizontal and vertical component, the angle of inclination of the electrode to the profile, and the angle of inclination of the part profile along the seam line relative to the horizontal plane. If this last factor is not controlled, its effect on the quality of the seam must be compensated by correcting the welding rate or the current. The authors found also that in the development of an automatic control system of arc welding, the inertia of the arc must be 1/2

USSR

SHNAYDER, B. I., et al, Avtomaticheskaya Svarka, No 12, Dec 70, pp 15-18

taken into account. Results obtained in the article were produced through the automatic AGK-1 welding machine.

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GETSOBAR AL

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 243795 FLAT GLASS CUTTING EQUIPMENT consists

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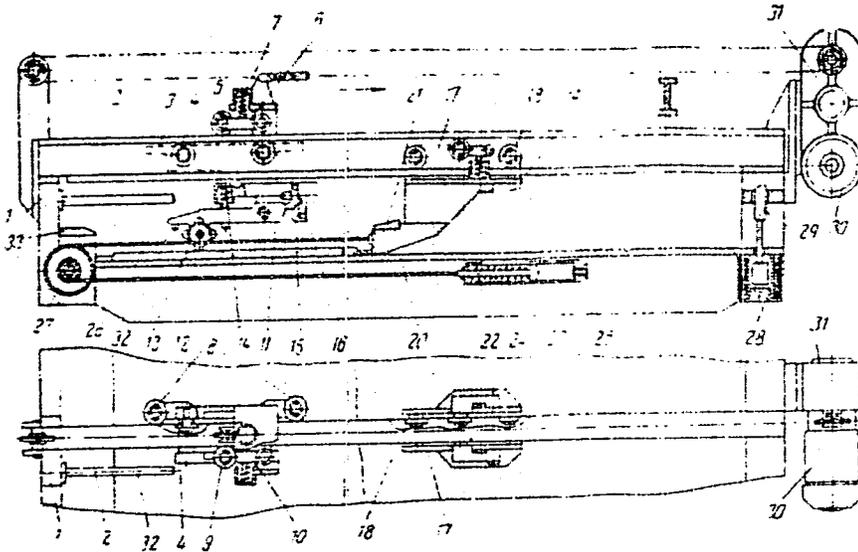
of a table, carrier with cutting tool, and drive mechanism for the tool. The aim of this invention is to increase the working life of the cutter and this is done with the help of a means of support over the working surface of the table. The diagrams show the lateral and plan views of the cutting assembly with the side brackets (1) supporting the guide rail (2) on which the rollers run which hold the cutting head (3). These rollers are both horizontal (4) and vertical (8) and there is adequate provision of springing (7 and 14) to cater for movements and pressures on the cutting tool (12). A second carrier travels along the guide rail on the rollers (18). This incorporates a stop device (21) which abuts against the side of the flat piece of glass during the cutting motion and prevents the glass from moving. The method of setting the cutter and its operation are included.

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AA0052549



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19821209

AA0052549

20.3.67. as 1142046/29-33, PROKSHIN, S.S. et al.  
S. Ordzhonikidze Ufim Aviation Inst. (3.10.69)  
Bul. 17/14.5.69. Class 32a, Int. Cl. C 03b. |

*MIT*  
Prokshin, S. S.; Gellerman, V. G.; Danovich, A. V.; Getsonok,

A. L.

Ufimskiy Aviatsionnyy Institut im. Sergo Ordzhonikidze

3/3

19821210

USSR

UDC: 669.14.018.85:539.376

GETSOV, L. B., Leningrad

"Influence of Plastic Deformation on Creep Resistance of Heat-Resistant Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973, pp 157-158.

Abstract: An increase in subgrain dimensions and active dislocation density causes acceleration in the process of creep. Therefore, one would expect that strain hardening, causing an increase in active dislocation density and breakup of the substructure could, depending on the intensity of these processes cause acceleration or retarding of creep in the unstable stage. In order to test these statements, the influence of preliminary strain hardening on the short-term creep resistance and relaxation of a number of heat-resistant steels and alloys was tested. Preliminary plastic deformation was found to be one of the structural parameters of a material. For conditions when parts must work under the simultaneous influence of plast deformation and creep deformation,  $\epsilon_{p1}$  should be included in the creep state equation. The author believes that for any alloy, by varying the temperature and degree of preliminary deformation, a state can be produced which is characterized by a

1/2

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USSR

Getsov, L. B., Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973,  
pp 157-158.

stable substructure. In this case, subsequent creep testing should show no  
unstable stage, and relaxation resistance should increase greatly.

2/2

USSR

UDC: 669.14

GETSOV, L. B., Leningrad

"Certain Peculiarities of the Formation and Development of Cracks in Heat-Resistant Alloys with Various Types of Loading"

Kiev, Problemy Prochnosti, No 7, Jul 73, pp 61-63.

Abstract: The peculiarities of the formation and propagation of cracks at elevated temperatures in heat-resistant nickel-based alloys are studied under various types of loading. The dependence of the nature of crack formation during cyclical deformation on cycle period was found to be the same for heat-resistant austenitic steels and for nickel-based alloys. In tests of heat-resistant alloys in tubular specimens, it was found that the cracks formed can develop quite differently: along crystallite boundaries, across crystallites, or in the form of fine ruptures perpendicular to the crystallites. The EI607A, EI765, EI826, EI827, EI868, EP220, and ZhSGU alloys were used in the study.

1/1

USSR

UDC 669.295:620.172.251.2

GETSOV, L. B., and KUZEMA, Yu. A.

"Temperature Dependence of Static, Quasi-Static, and Fatigue Failure Conditions of Titanium Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, 1972, pp 35-37

Abstract: The observed anomaly of the temperature dependence of creep resistance of  $\alpha$ - and  $\alpha + \beta$ -titanium alloys is used for the study of deformation criteria of fatigue failure of metals under cyclic loads of constant sign. Fatigue tests under low-frequency conditions of VT-8 titanium alloy (6.6% Al, 3.4% Mo, 0.3% Si, 0.05% C, 0.02% N, 0.14% Fe, 0.005% H, the rest Ti) proved that fatigue failure under stresses below the proportionality limit is possible only at temperatures at which creep is observed. Under these conditions, at cyclic stresses of constant sign, the loop width of elastic hysteresis is determined by the creep in loading. A formula is presented which characterizes properties of materials under cyclic loads of constant sign. Two figures, two tables, five bibliographic references.

1/1

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USSR

UDC 539.389.3

BORZDYKA, A. M., and GETSOV, I. B.

Relaksatsiya napryazheniy v metallakh i splavakh (Stress Relaxation in Metals and Alloys), Moscow, "Metallurgiya" Press, 1971, 304 p., illustrations, tables, graphs, bibliographic references, 3400 copies printed.

Translation of Annotation:

The book discusses stress relaxation in metals and alloys, methods for studying it, and the principal determining factors, including temperature, initial stress, time, and the size factor, as well as metal behavior under nonsteady-state conditions. Data are given on the effects of alloying on the relaxation resistance of steel and other construction materials. Described are newly developed conditions for the heat treatment of steel and alloys to ensure maximum relaxation resistance. The book is intended for engineering, technical, and scientific personnel of the metallurgical and machine building industries.

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USSR

BORZDYKA, A. M. and GETSOV, L. B., Relaksatsiya napryazheniy v metallakh i splavakh, Moscow, "Metallurgiya" Press, 1971

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USSR

BORZDYKA, A. M. and GETSOV, L. B., *Relaksatsiya napryazheniy v metallakh i splavakh*, Moscow, "Metallurgiya" Press, 1971

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3/4

USSR

BORZDYKA, A. M. and GETSOV, L. B., Relaksatsiya napryazheniy v metallakh i splavakh, Moscow, "Metallurgiya" Press, 1971

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USSR

UDC 539.1

GETSOV, L. B., DONDOZHANSKIY, V. K., Leningrad

"Method of Calculated Estimation of Heat Resistance of Turbine Blades and Experimental Checking of Estimates"

Kiev, Problemy Prochnosti, No 6, 1972, pp 102-105.

Abstract: This article studies a method for calculated estimation of the heat resistance of blades operating at high temperatures, based on the use of the deformation criterion of fatigue rupture and the theory of strengthening, modified as applicable to the conditions of sign-changing stresses and variable temperatures to which turbine blades are subjected.

1/1

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USSR

UDC 539.3

ABOVSKIY, N. P., GETTS, I. I.

"On the Effect of the Orientation of Reinforcement Ribs on the Stress-Deformation State of Hollow Shells"

V sb. Prostranstv. konstruksii v Krasnoyarsk. kraye (Three-Dimensional Structures in the Krasnoyarsk Region -- Collection of Works), Krasnoyarsk, 1972, pp (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V120)

Translation: The effect of the orientation of reinforcing ribs on the operation of hollow shells is investigated. The results were obtained by conducting a numerical experiment based on a computer application of the finite-difference method of calculating ribbed shells. Authors' abstract.

1/1

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USSR

UDC 620.186:69.24'25

GEVELING, N. N., and MASLENKOV, S. B., Central Scientific Research Institute of Ferrous Metallurgy

"Structure and Composition of Phases in the Crystallization of Eutectic Ni-Cr Alloys"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 29-35

Abstract: The compositions of phases in eutectic Ni-Cr alloys was investigated for the purpose of a systematic quantitative analysis of distribution of components in the phases in conjunction with the morphological features of structures and the phase diagram features. It was found that in both hypoeutectic and hypereutectic Ni-Cr alloys, close to eutectic in composition, nucleation of primary dendrites of the alpha-phase (rich in chromium) can be observed primarily in the volume of the melt. Conversely, the gamma-phase (rich in nickel) is nucleated on the surface of the cooling ingot and, as an exception, on the primary dendrites of the alpha-phase. Crystallization of the eutectic in alloys rich with chromium, in comparison with the eutectic composition, occurs only after the formation of the gamma-phase ring around the primary dendrites of the alpha-phase. Excess primary

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USSR

CEVELING, N. N., and MASLENKOV, S. B., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 73, pp 29-35

crystals of the alpha- and gamma-phases are characterized by a higher degree of supersaturation of the second component than the same phases solidifying in the composition of eutectic colonies. Relative supersaturation in comparison with equilibrium values for primary and eutectic crystals of the alpha-phase is higher than for gamma-phase crystals. The nature and intensity of precipitation in the solid phases of eutectic alloys have been associated with crystallization form and the corresponding supersaturation of the second component. The most intense precipitation occurs in the dendrites and primary crystals. At the same time precipitation is strongly retarded in the crystals of phases which form eutectic colonies due to the low supersaturation. 3 figures, 1 table, 10 bibliographic references.

2/2

- 70 -

USSR

UDC 620.186.2:669.14.018.44

MASLENKOV, S. B., VERZINA, V. K., GEVELING, N. N., and BUROVA, N. N., Central Scientific Research Institute of Ferrous Metallurgy

"Segregation Microheterogeneity in 4Kh12N3G8MFB (E1481) Heat-Resistant, Electroslag-Remelted Steel"

Moscow, Metallovedeniye, No 9, Sep 72, pp 70-72

Abstract: A comparative analysis was made of intracrystalline segregation in ingots of a 13-8-8 austenitic steel (E1481) produced by open-arc melting followed by electro-slag remelting. The composition of the remelted steel was (in %): 0.39 C, 0.41 Si, 13.4 Cr, 8.2 Mn, 8.0Ni, 1.4 V, 1.3 Mo, and 0.45 Nb. The degree of dendritic heterogeneity was evaluated by the coefficient of segregation  $K_s$ , which is the ratio of maximum concentration of an element to the minimum concentration of the element in a dendritic cell. The steel was made at the Elektrostal' Plant in a 20-ton electrical furnace. The resulting electroslag remelted ingot weighed 3200 kg. It was found that E1481 steel, alloyed with strong carbide-forming elements and carbon, experiences inter-axial segregation of the basic components. The segregation heterogeneity is determined by the nature of the macrostructure, and the maximum heterogeneity was the same for both the open-arc and electroslag melted steel. 1 figure, 1 table, 5 bibliographic references.

1/1

GEVANOVA, L.I.

SFMS 50068  
C-73

K-6. ALLOYING EPITAXIAL LAYERS OF SILICON BY THE GAS DISCHARGE METHOD IN THE  
GLOW DISCHARGE MODE

Article by O. N. Borisov, L. N. Skvortsov, M. I. Rakhlin, R. E. Karchevskiy,  
L. I. Gevzhanova, A. G. Strockina, Minsk, Moscow, Novosibirsk, Ill. Stremozhen po  
Prezheniya Prilozheniya Poluprovodnikov Kislotalov I Pioner, Russian,  
1971 June 19/2, p 131

An experimental study was made of the possibility of gas discharge al-  
loying of epitaxial layers of silicon under glow discharge conditions between  
the electrode containing the alloying admixture.

The variation in alloying level by admixture groups V and III was in-  
vestigated for transmutation of H<sub>2</sub>Ar and mixtures of the gases through the dis-  
charge chamber.

In order to discover the mechanism of the formation of the alloying  
mixtures, the ion energies of H<sup>+</sup> and Ar<sup>+</sup> and the threshold energies of deposi-  
tion of the electrodes made of As-Sb and LaF<sub>3</sub> alloys were calculated. The  
calculations indicate the different mechanism of formation of alloying mix-  
tures on transmutation of H<sub>2</sub> and Ar through the discharge chamber and explain  
the observed experimental characteristics of alloying.

USSR

UDC 624.196.1(211).001.57

LIMANOV, YU. A., Professor, D-r of Technical Sciences, ~~GEVIRTS, G. YA.~~, and  
GOLITSYNSKIY, D. M., Candidates of Technical Sciences

"Model Studies of Ground Pressures on Underground Hydraulic Structures in  
Permafrost Areas"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 10, 1971, pp 18-22

Abstract: The technique of modeling the permafrost rocks and their thawing process occurring as a result of operation of hydraulic structures is considered. The nature of the ground pressure and factors affecting the load magnitude from ground pressure during thawing of rocks are considered on the basis of model studies, using the equivalent materials. Similarity conditions for selecting equivalent materials are established. The results of the study on thawing of permafrost rocks around hydraulic tunnels attest the appearance and development, in that period, of deformations and disintegration of a significant rock stratum above the tunnel. Certain regularities related to sagging of the earth surface and sagging of separate rock layers within the massif, as well as the qualitative results of current phenomena are established, which make it possible to form an opinion, with certain approximation, on the qualitative side of these phenomena. Recommendations on modeling technique for permafrost rocks and on methods of determining the load magnitude from  
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USSR

LIMANOV, YU. A., et al., Gidrotekhnicheskoye Stroitel'stvo, No 10, 1971,  
pp 18-22

ground pressure are presented. Load variation with ground pressure on tunnel arch, in relation to the depth of thawing zone, tunnel span and block disintegration degree in permafrost fissured grounds, measured on various models are plotted in graphs.

2/2

- 76 -

USSR

UDC 621.374.4 (088.8)

BORODIN, B.L., GEVONDYAN, T.A.

"Frequency Multiplier"

USSR Author's Certificate No. 506543, filed 15 Apr 69, published 14 July 71  
(from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2G222P)

Translation: The frequency multiplier fulfilled in the form of a series-connected pulse former, a "frequency-voltage" converter and a "voltage-frequency" converter, contains a charging unit, a comparison circuit, a switch [klyuch] and a discharging unit. With the object of an increase, variable in a wide range, of the input frequency to a whole number  $n$ , controlled in a wide range, by a synchronization of operation of the "voltage-frequency" converter by pulses of the input frequency, the output of the pulse former is connected in addition to the input of the switch of the discharging unit of the "voltage-frequency" converter.

1/1

USSR

UDC 542.91+547.233+547.572

GEVORGYAN, G. A., PETROSYAN, L. H., and MINZHONYAN, O. L., Institute of Fine Organic Chemistry imeni A. L. Minzhoyan, Academy of Sciences Armenian SSR, Yerevan

"Derivatives of Aminoketones. VIII. alpha-(p-Alkoxyphenyl)-gamma-diethyl-amino- and alpha-(p-Alkoxyphenyl)-gamma-(N-pentamethyleneimino)butyrophenones"

Yerevan, Armyskiy Khimicheskiy Zhurnal, Vol 24, No 10, 1971, pp 892-899

Abstract: By the interaction of p-alkoxybenzyl cyanides with diethylamino- and pentamethyleneiminoethyl chlorides in the presence of  $\text{NaH}_2\text{N}$ , the corresponding 2-(p-alkoxyphenyl)-4-diethylamino- and 2-(p-alkoxyphenyl)-4-pentamethyleneiminobutyronitriles were obtained, which by the reaction with phenylmagnesium bromide were converted into alpha-(p-alkoxyphenyl)-gamma-diethyl-amino- and alpha-(p-alkoxyphenyl)-gamma-(N-pentamethyleneimino)butyrophenones. In the reaction of the p-alkoxybenzyl cyanides with the aminoethyl chlorides, the disubstituted compounds  $\text{RC}_6\text{H}_4\text{C}(\text{CN})(\text{CH}_2\text{CH}_2\text{R}')_2$  also formed to a minor extent. The oximes of the aminoketones were prepared. gamma-Aminoketones are known to have an increased analgesic activity as compared with beta-aminoketones. The compounds synthesized and their physical properties are listed in tables.

1/1

USSR

UDC 622.24.054.322:622.24.051.64

KHUBOV, A. N., VOSKANOV, T. G., GEVORKOV, G. S., KARAYEV, S. K., MDIVANI, A. G., SIMONYAN, A. A., SHAKHRAMANOV, A. Kh., Baku Division of the All-Union Scientific Research Institute for Drilling Techniques, All-Union Scientific Research Institute for Drilling Techniques and "Kaspmorneft" Combine

"Effectiveness of Applying Slow-Speed Turbodrills in Drilling With Diamond Chisels"

Dzerzhinsk, Bureniye, No. 4, 1972, pp 3-7

Abstract: The results of experimental boring with diamond chisels of diameter 241 mm in combination with slow-speed and high-revolution turbodrills when approximately the same power is supplied to the chisel are analyzed. It is shown that the highest economic and technical operating indices for diamond chisels are achieved by applying a slow-speed low-pressure turbine of precision casting, namely the 3TSSh-190TL turbodrill and the 33/11 turbine. This turbine can operate consistently at revolutions of 250-400 per minute and can take axial loads of 12 tons or more. Data are presented on the consumption of DRS241S2 diamond chisels, the nature of their wear, and the change in mechanical rate during drilling. It is shown that a

1/2

USSR

KHUBOV, A. N., et al, Bureniye, No. 4, 1972, pp 3-7

decrease in the number of revolutions to 300-400 per minute had a favorable effect on the wear and an increase in cutting capacity by a factor of 2 is achieved at the same mechanical rate.

2/2

Acc. Nr:

AP0053432

Abstracting Service:

CHEMICAL ABST.

5-70

Ref. Code:

UR0366

110738r Addition of trichloroacetonitrile and trichloroacetamide to conjugated enynes and dienes. Badanyan, Sh. O.; Sarkisyan, K. L.; Gevorkyan, A. A. (Inst. Org. Khim., Erevan, USSR). Zh. Org. Khim. 1970, 6(2), 397 (Russ). The addn. of  $\text{Cl}_3\text{CCN}$  to  $\text{H}_2\text{C}:\text{CMe}:\text{CH}$  gave  $\text{HCCl}:\text{C}:\text{CMeCH}_2\text{CCl}_2\text{CN}$ . The addn. of  $\text{Cl}_3\text{CCN}$  or  $\text{Cl}_3\text{CCONH}_2$  to  $\text{H}_2\text{C}:\text{CMeCH}:\text{CH}_2$  gave  $\text{ClCH}_2\text{CH}:\text{CMeCH}_2\text{CCl}_2\text{X}$  (X is CN or  $\text{CONH}_2$ ). CPJR

sw

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REEL/FRA  
19830457

7

USSR

UDC 591-484

TER-GAZARYANTS, YE. T., and GEVORKYAN, D. A., Optical Reception Laboratory,  
Academy of Sciences Armenian SSR

"Some Functional and Morphological Characteristics of the Action of Laser  
Radiation on the Retina of a Pigeon's Eye"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 25, No 1, 1972, pp 83-87

Abstract: Experiments were conducted to determine functional changes in the retina following laser irradiation and their relation to morphological changes. The left eye was irradiated three times at 3-day intervals by a defocused laser (wavelength-6943Å, pulse repetition rate-2hz, energy-0.1 j/pulse, pulse duration-not more than 35 nanosec.). An electroretinogram was used during and after irradiation to register retinal activity. Negative oscillations in the ERG of the pigeons during direct irradiation shows positive retinal damage. The ERG did not deviate from its usual form when subjected to a test flash of light immediately following laser irradiation. The enucleated pigeon eyes were treated and prepared in dyed, 15 micron sections. The following morphological changes were observed: The left eyes showed acute edema and histiocytic infiltration in the area of the optic disc and of the layer of nerve fiber. At the base of the pecten, with a background of the edema, infiltration with depigmentation and destruction of the pecten tissue structure.

1/2

USSR

TER-GAZARYANTS, YE. T., and GEVORKYAN, D. A., *Biologicheskii Zhurnal Armenii*, Vol 25, No 1, 1972, pp 83-87

In the pecten itself, acute vascular plethora with destruction of the pecten's pigment structure, decomposition of pigment with its conversion to a fine-grained structure, swollen vascular endothelia. In the vascular tunic, structural damage, retinal-porosity formation, vessel dilation, and leukocyte accumulation. Hypertrophy and homogenization in the vascular endothelia. Vascular pigment depleted or absent. Retinal peeling together with pigment epithelium as a result of hemorrhaging and destruction of pigment epithelium. Edema of layer of nerve fiber. Iris pigment depleted. Histolympocytic infiltration of iris. Crystalline lens capsule peeling. In the cornea, epithelial layers were shed, areas of desquamation and discomplexation of epithelium. The right, unexposed retina was ruptured along the pigment epithelium and histiocytic infiltration in the area of the outlet of the pecten was observed.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--STATE OF AMINO ACIDS IN A SOLUBLE FRACTION OF CANDIDA ALBICANS AT  
THE END OF THE EXPONENTIAL GROWTH PHASE -U-  
AUTHOR-(02)-TERKARAPETYAN, M.A., GEVORKYAN, D.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK ARM. SSR 1970, 50(1), 42-8

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMINO ACID, FUNGUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605006/F03 STEP NO--UR/0252/70/050/001/0042/0048

CIRC ACCESSION NO--AT0139816

UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0139816

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FRACTIONATION OF AMINO ACID POOLS BY A SYSTEMATIC EXTN. WITH ACETONE AND ETOH WAS INVESTIGATED. QUANT. DETN. WAS CARRIED OUT BY PAPER CHROMATOG. AND NINHYDRIN. WITHIN THE CELL NO SINGLE METABOLIC POOL OF AMINO ACID MONOMERS WAS FOUND BUT RATHER A NO. OF SYSTEMS. MICRO AND MACROMOL. STRUCTURES WITH TOTAL POS. OR NEG. CHARGES MAY BE RESPONSIBLE FOR THE DISTRIBUTION OF AMINO ACIDS. FACILITY: EREVAN. GOS. UNIV. EREVAN, USSR.

UNCLASSIFIED

Pharmacology and Toxicology

USSSR

UDC 541.69+547.572+547.636.4

KHAZHAKYAN, L. V., LUK'YANENKO, N. L., ALIYEV, R. K., and GEVORKYAN, G. A.,  
Institute of Fine Organic Chemistry imeni A. L. Mndzhoyan, Academy of Sciences  
Armenian SSR, Yerevan

"The Constants of Association of Some Aminoketones with Phenol and the  
Physiological Activity of These Compounds"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 25, No 6, 1972, pp 476-481

Abstract: By using IR spectroscopy, the constants K of association of the  
physiologically active aminoketones  $p\text{-ROCC}_6\text{H}_4\text{-C(O)-CH(Ph)-CH}_2\text{N(CH}_2)_5$  (I),  
 $p\text{-ROCC}_6\text{H}_4\text{-C(O)-CH(Ph)-CHN(CH}_2)_4$  (II), and  $\text{Ph-C(O)-CH(C}_6\text{H}_4\text{OR-p)-CHN(CH}_2)_4$  (III)  
with phenol were determined. For compounds I-III, both the value of K and  
the analgesic activity increased with an increasing size of R from Me to Bu  
and then decreased at R = Am. In compounds IV derived from  $\text{Ph-C(O)-OCH}_2\text{-}$   
 $\text{-CH}_2\text{R}$ , where R is  $\text{N(CH}_2)_4$  or  $\text{N(CH}_2)_5$ , that contained two alkoxy groups in the  
2 and 6 or 2 and 4 positions of the phenyl ring, increasing of the size of  
the alkoxy groups in the o-position to the ester group reduced the value of  
1/2

USSR

KHAZHAKYAN, L. V., et al., *Armyanskiy Khimicheskiy Zhurnal*, Vol 25, No 6, 1972, pp 476-481

K. Even if an alkoxy radical was present in the p-position of the phenyl in IV, the value of K decreased instead of increasing as in the case of I-III. This was due to steric hindrance. The values of K were higher for compounds I-II, in which the electron density was displaced from the alkoxy group to the CO group over a conjugated system, than for compounds III, in which displacement occurred because of an inductive effect. Beginning with the Am group, steric hindrance in I-III interfered with the formation of phenol association products. As a result of the decreased tendency to form association products, both K and the physiological activity decreased. The preparation of the compounds used in the study and their properties are described by Gevorkyan et al in *Arm. Khim. Zh.*, 24, 32, 1971; 24, 333, 1971. Determinations of the physiological activity were carried out at the Laboratory of Analgesics and Hypnotics under the direction of S. N. Asratyan.

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- 45 -

Acc. Nr:

AP0045901

Abstracting Service: 5/70  
INTERNAT. AEROSPACE ABST.

Ref. Code:  
UR 0198

G

A70-23292 # Natural vibrations of circular plates with allowance for stress tensor asymmetry (Sobstvennye kolebaniia kruglykh plastin s uchetom nesimmetrichnosti tenzora napriazhenii). G. A. Gevorkian (Erevanskii Politekhicheskii Institut, Yerevan, Armenian SSR). *Prikladnaia Mekhanika*, vol. 6, Jan. 1970, p. 77-81. In Russian.

Analysis of the natural vibrations of hinged circular plates within the framework of Gevorkian's (1966) plate bending theory in which moment stresses are taken into account. A transcendental equation for the frequencies of the natural vibrations of a plate is derived, and the region where the moment stress are maximum is identified.

V.P.

ALS

1/1

REEL/FRAME  
19780942

18

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--PHARMACOLOGICAL PROPERTIES OF THE DIALKYLAMINOALKYL ESTERS OF  
P,ALKOXYBENZYLPHENYLACETIC ACIDS -U-  
AUTHOR-(02)-MEDNIKYAN, G.A., GEVORKYAN, G.G.

COUNTRY OF INFO--USSR

SOURCE--BIOL. ZH. ARM. 1970, 23(1), 87-91

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPOTENSION, PHARMACOLOGY, DRUG EFFECT, ESTHER, ACETIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FAME--3009/0170

STEP NO--UR/0427/70/023/001/0087/0091

CIRC ACCESSION NO--AP0139033

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70  
CIRC ACCESSION NO--AP0139033  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WEAK HYPOTENSIVE AND GANGLIOPLEGIC  
ACTIVITY AND SOME LOCAL ANESTHETIC AND ANTICONVULSIVE ACTIVITY WERE  
FOUND WITHIN THE DOSE RANGE OF 1-15 MG-KG IN 24 DERIVS. OF  
P, ALKOXYBENZYLPHENYLACETIC ACID. DIETHYLAMINOETHYL ESTERS WERE THE MOST  
ACTIVE. FACILITY: INST. TONKOI ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

USSR

UDC: 658.5.011:621.37

GEVORKYAN, M. U., KOZHEVNIKOV, I. A., SHVETSOV, K. L.

"Standardization of Power Supply Devices for Electronic Radio Equipment"

V sb. Obmen opytom v radioprom-sti (Experience Pooling in the Radio Industry--collection of works), vyp. 1, Moscow, 1971, pp 10-13 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V293)

Translation: The paper contains a brief state-of-the-art report on the standardization and unification work being done in industry to improve the technical and economic indices of power supply devices for electronic radio equipment. Resumé.

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USSR

UDC: 681.332.65

ASOYAN, L. M., BELKIN G. G., GRIGORYAN, R. Kh., KARANYAN, K. Kh., ABADZHYAN, S. S., GEVORKYAN, S. G.

"Parallel Barker Code to Parallel Binary Code Converter"

USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

Translation: The converter suggested contains a register, each digit of which with the exception of the low-order digit, is made of two flip-flops connected with buses corresponding to the subdigits of Barker code and logic circuits. The ones and zeros outputs of the flip-flops of each digit are connected to two pairs of AND circuits respectively. The outputs of the AND circuits of each pair are connected through an OR circuit and delay line to the inputs of the second flip-flop of the same digit. The output of the OR circuit connected to the ones output of the triggers of the digit in question is connected also to the AND circuits connected to the outputs of the second flip-flop of the next digit. The output of the OR circuit connected to the zero outputs of the flip-flops is connected to the AND circuit which is connected to the outputs

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